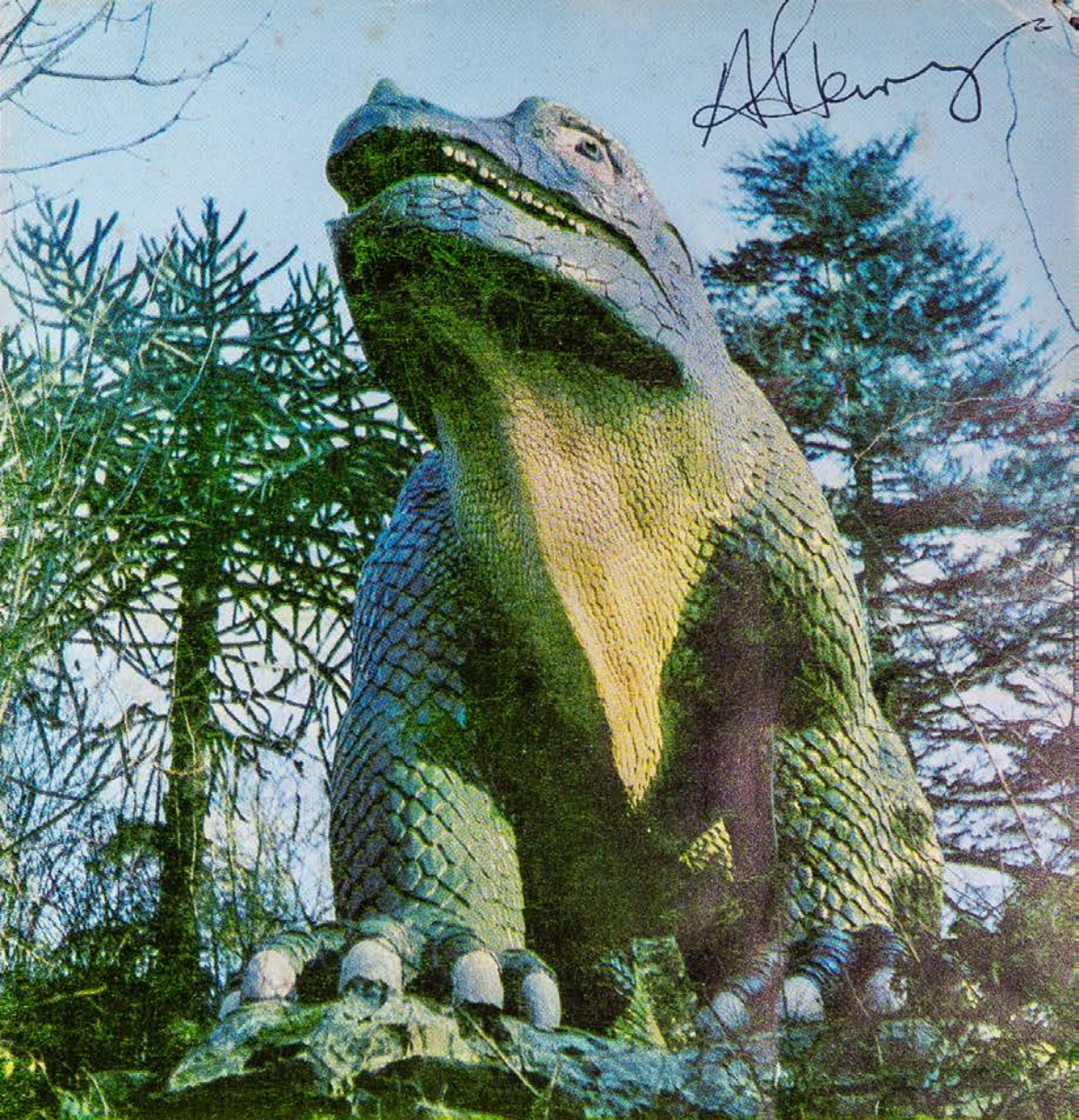




150,000,000 B.C.

The Prehistoric Monsters of Crystal Palace

Enjoy your Parks Series—Number Four A Greater London Council Publication

On 10 June 1854, 40,000 spectators, among them the King of Portugal, assembled on Sydenham Hill to witness Queen Victoria perform a great ceremony. Following the singing by a choir of 1,000 of the National Anthem and The Hundredth Psalm, the Queen declared open the Crystal Palace in its new surroundings.

Architect and creator of the Palace and its grounds was Sir Joseph Paxton. His design for the site, said a contemporary guide-book, was of a quality which "will throw Versailles into insignificance".

However, aesthetic magnificence was neither the chief aim nor the sole attainment of the "Crystal Elephant", as one might expect from an outstanding monument to the Age of Reform. In the opening ceremony the Queen had expressed the hope that the enterprise "may long continue to elevate and interest the minds of all classes of my people". Echoing this thought, Sir Robert Peel contrasted ancient and modern attitudes towards public entertainments with these words: "upon a Roman holiday hecatombs of wild beasts were slain and sanguinary conflicts took place, man against man. We propose to gratify the people with other agencies more in harmony with our civilization and our Christianity".

Despite Peel's lofty sentiments, wild beasts did play a part in "elevating and interesting" Victorian Sydenham, although there is no record of Christians being thrown to them. In the "tidal lake" at the southern end of the Palace grounds were sited four small islands—in themselves a geology lesson—representing the various strata of the earth's crust. In an inspired attempt to provide a spectacular link between past and present the islands were colonized with some two dozen life-sized replicas of *primaeval* monsters.

These island beasts are striking examples of the educational theme which pervaded every aspect of the design of the Palace grounds. They were, said the *Annual Register* for 1854, "examples of everything that can illustrate the science of the palaeontologists". From the Giant Toad, representing the Labyrinthodonts 350 million years old, to the Giant

The Greater London Council is grateful for the assistance given in the preparation of this booklet by Professor W. E. Swinton, Director of the Royal Ontario Museum, Toronto, and formerly of the British Museum (Natural History).



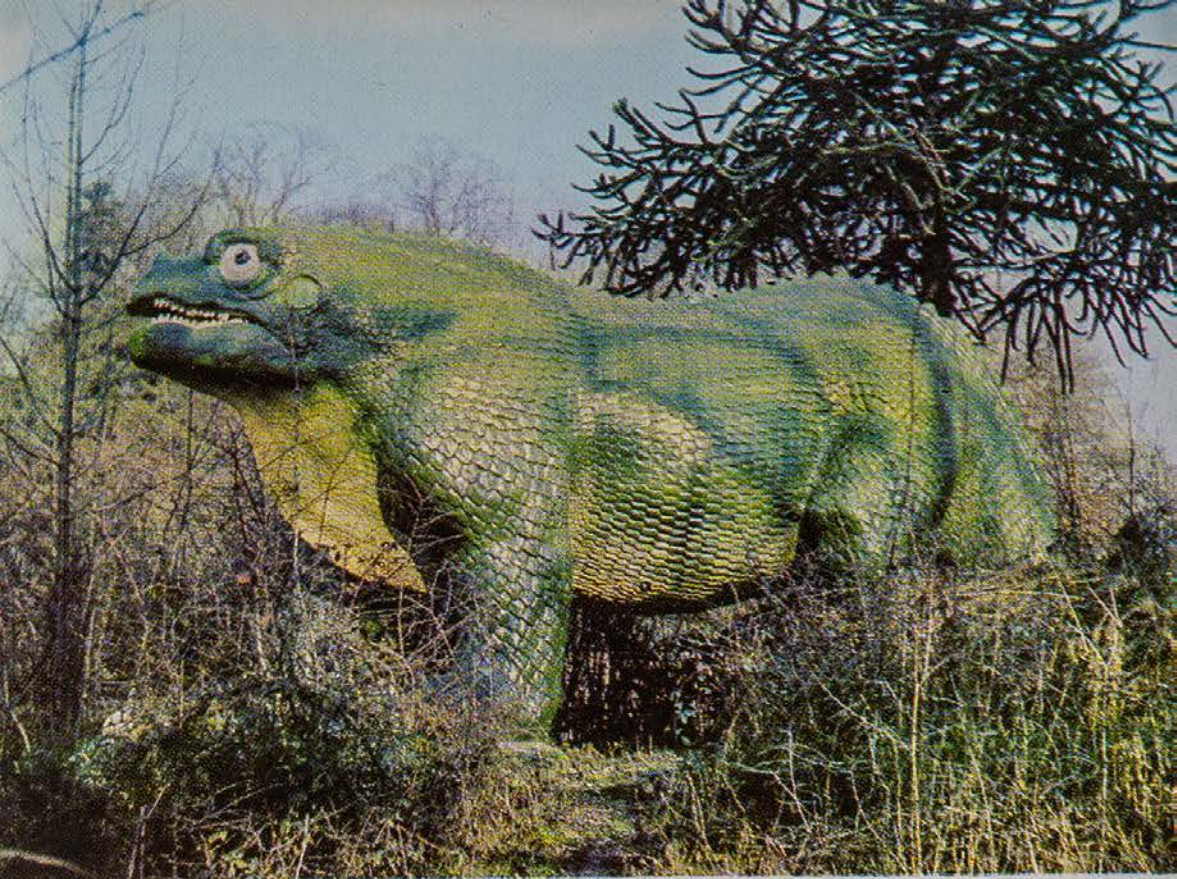
Irish Elks who were hunted by earliest man, a variety of brutish forms still lurk among the flora of Penge, as much at home—the Dinosaur among the sycamores, the Pterodactyl shaded by brambles—as were their forefathers within the primaeval swamps.

In 1854 no one doubted that these effigies were perfect in every detail. Commissioned by the Palace directors, they were built under the guidance of Professor Richard Owen whom it would not be too fanciful to describe as the father of modern palaeontology. It was Owen who introduced the word Dinosaur to the language and who established the study of pre-history as an academic pursuit. This was the result of his collation and development along with his own work, of the discoveries of Doctors Mantell and Buckland—the first men scientifically to reconstruct and describe the dinosaur. The first known dinosaur (*Iguanodon* Mantelli) bore Mantell's own name. He reconstructed this beast from a fossilized tooth, found by his wife at the side of a country road in Sussex. It was the resemblance of this tooth to that of the South American lizard, *Iguana*, that suggested to Mantell a name for his restoration. In the previous year (1824) Buckland began the first restoration of *Megalosaurus*. A modern scholar, Professor W. E. Swinton, has said of the work of these men, "the foundations of dinosaurian research were thus laid in England before a single remain had been named elsewhere in the world".

It was thus with great pride that Mr. Waterhouse Hawkins, whom the Crystal Palace Directors had entrusted with the task of constructing the models, organized on New Year's Eve 1853 a grand banquet to celebrate the imminent completion of his commission. Guest of honour was the great Professor Owen. With a dramatic sense of occasion Hawkins had arranged that the dinner take place actually inside the half-completed corpus of the mighty *Iguanodon*. The twenty guests were "accommodated with seats ranged on each side of the table within the *Iguanodon*." All were sheltered by an awning of pink and white drapery around the ceiling of which hung a number of pennants bearing the names of Owen, Mantell, Buckland and other leading pre-historians.

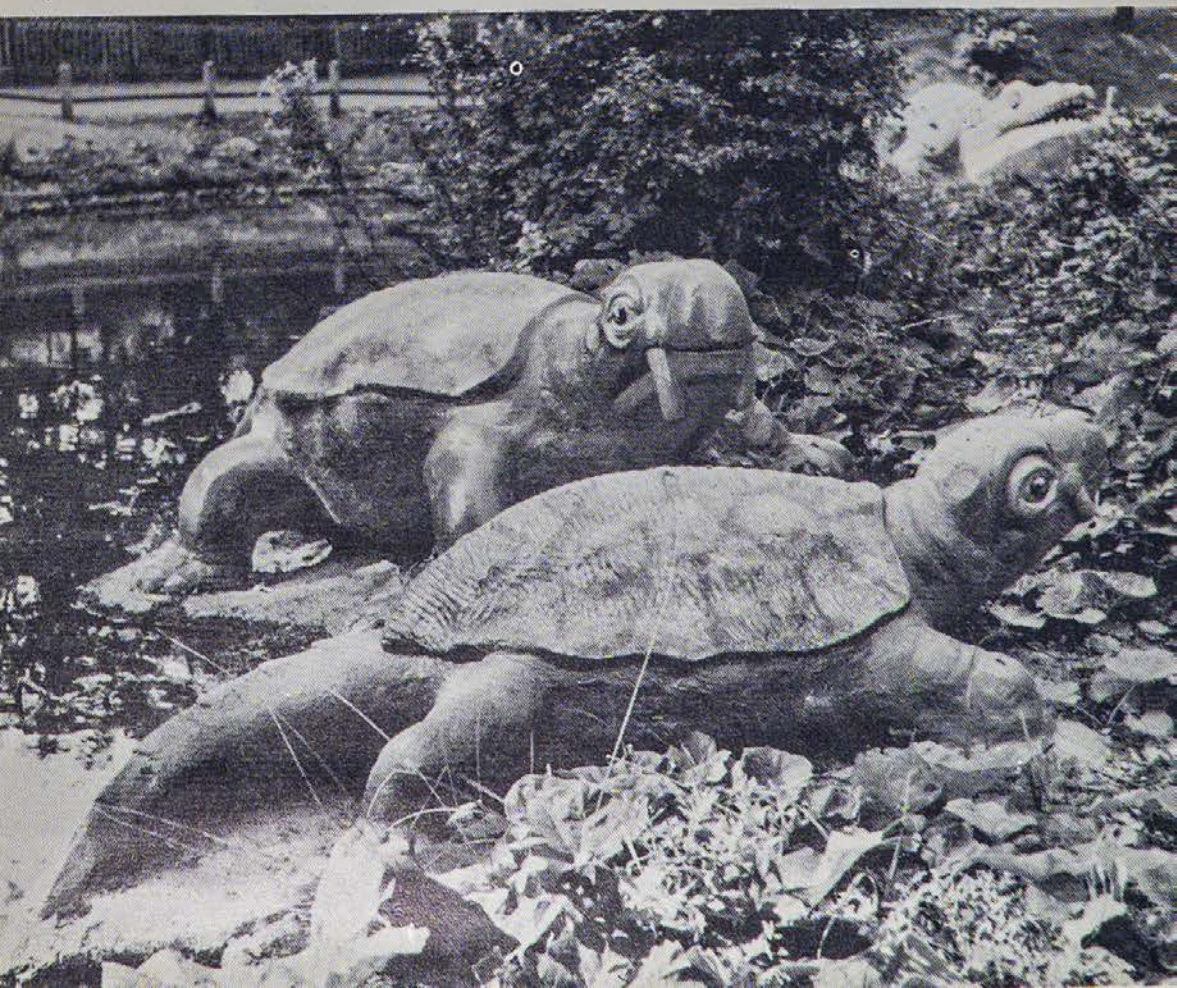
Owen's chair of honour was at the head of the table, within the skull. This arrangement may not have impressed him as an unqualified compliment, since the size of the Dinosaur's brain was in inverse proportion to that of its skull—the size of a clenched fist in *Iguanodon*'s case.

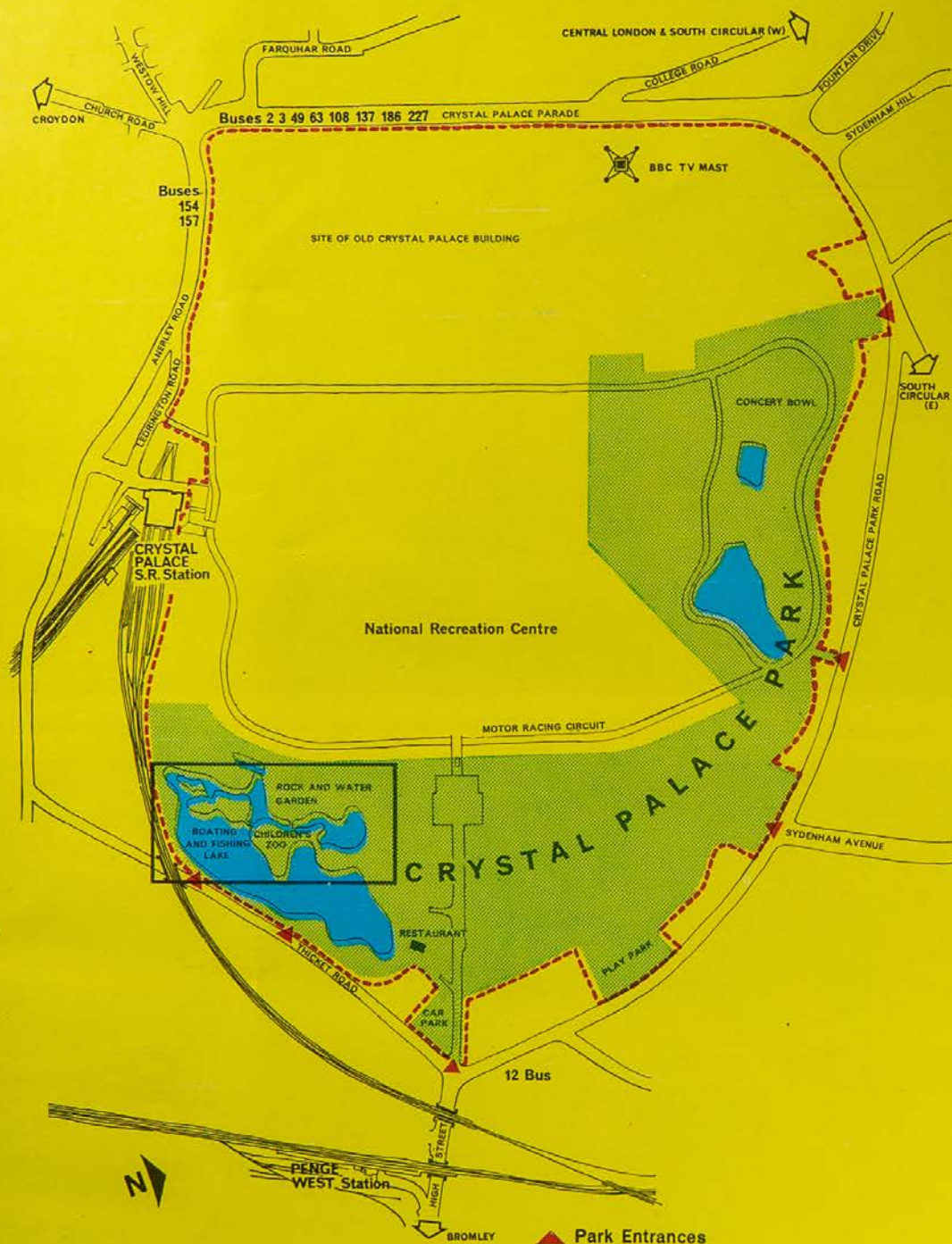
The company at Hawkins's feast dined until midnight amid much jollity. One Professor Forbes, self-styled "poet-geologist", concluded the evening's entertainment by reciting some lines dedicated to the *Iguanodon*. The rest of the company joined in the refrain in a manner, says one report, "so fierce and enthusiastic as almost to lead to the belief that a herd of *Iguanodons* were bellowing from some of the numerous pit-falls in Penge Park". A brief scrutiny of the poem, some lines of



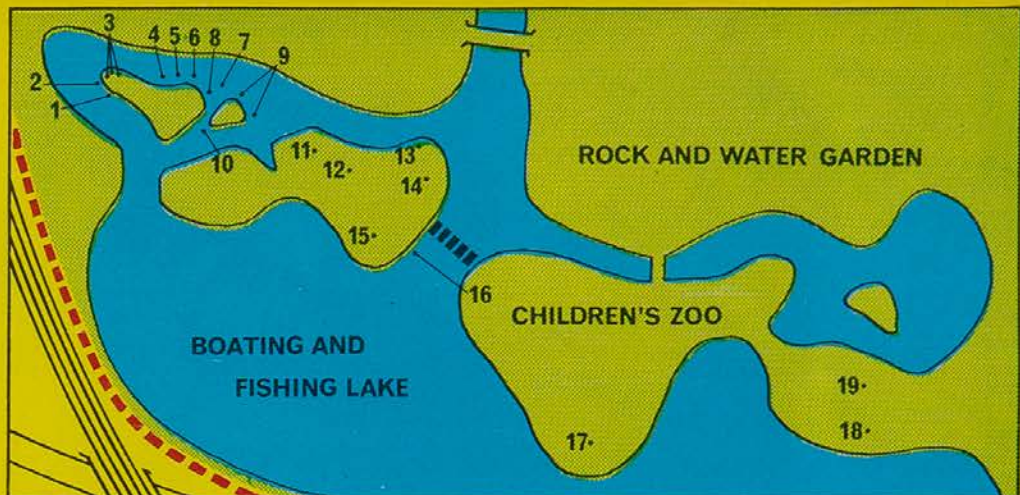
▼ *Dicynodonts*

Iguanodon ▲





Crystal Palace



1 & 2 DICYNODONTS It is now known that these reptiles—from South Africa—did not have a shell on their backs. They lived about 250,000,000 years ago and their name (meaning "double dog tooth") is taken from their tusks.

3 LABYRINTHODONT An amphibian which lived about 200,000,000 years ago and whose bones have been found in English rock.

4, 6 & 7 PLESIOSAURUS Long-necked, swimming reptiles remains of which were first found in Dorset. They could be 5—30 feet long and lived on fish and squids. Lived about 175,000,000 years ago.

5, 8 & 10 ICHTHYOSAURUS The "fish-lizard", a long-snouted swimming reptile, usually about five or six feet long, that lived on fish and squids off the British coasts some 150,000,000 years ago.

9 TELEOSAURUS Long-snouted sea crocodiles, well-known from many bones in England, these animals lived in the Jurassic period—about 150,000,000 years ago.

11 HYLAEOSAURUS A dinosaur armed with bony plates and little spikes. Remains were first found in Sussex in 1832. It lived at the same time as the Iguanodon and Megalosaurus.

12 MEGALOSAURUS A flesh eating dinosaur, remains of which were first found near Oxford. The model is quite incorrect, as this animal used to walk and run on its hind legs. It lived about 150,000,000 years ago.

13 & 14 IGUANODON The first known dinosaur. Its remains were found in Sussex from 1822 onwards and later in Kent, Dorset and the Isle of Wight. This was a harmless plant-eating reptile and weighed about 7 tons. The horn, shown on the nose, was really the thumb. The Iguanodon lived about 150,000,000 years ago.

15 PTERODACTYLS These ancient flying creatures were also reptiles, with a web of skin that formed wings. Some were very small—like sparrows; others were the largest flying creatures we know, with a wing-span of 25 feet. Remains of pterodactyls—in the form of large hollow bones—have been found in the Chalk in England. These depicted at Crystal Palace lived about 80,000,000 years ago.

16 MOSASAURUS Another inaccurate illustration. Known from the Chalk, this was a large swimming reptile, sometimes 30 or more feet long. It lived about 80,000,000 years ago.

17 GIANT SLOTH 18 IRISH ELKS 19 ANOPILOTHERIUM These models are not part of the original collection and were added at a much later date.

▼ *Megalosaurus*



which are quoted below, inclines one to the conclusion that Professor Forbes's command of geology must surely have exceeded his prowess as a poet:

"Beneath his hide he's got inside
The souls of living men
Who dare our Saurian now deride
With life in him again?

(Chorus)

The jolly old beast
Is not deceased,
There's life in him again.

(A roar)"

Such was Professor Owen's eminence that we need not be surprised at the stout defence of him put up by the author of the guide-book against those with the effrontery to question the authenticity of Hawkins's models. This writer had no doubts that "the key with which Professor Owen can decipher the records of geological ages is certain and infallible" and quotes Andrew Ramsey's words "physical like moral science owns no conflicting truths."

Sadly this affirmation serves only to emphasize the inescapable truth that Owen was as fallible as any other scientist. In several respects Hawkins's creations conflicted with what we now know to have been the actual form of the animals they represent. Ironically, it is his masterpiece, the *Iguanodon*, in which the most serious flaws occur. In the early days after its construction the appearance of this massive figure could arouse emotions ranging from awe to patriotic pride. One contemporary said "the girth around the body is about twenty-five feet. The animal is a true Briton." One may imagine this writer's reaction to Professor Swinton's statement that the Crystal Palace *Iguanodon* is "now known to be quite inaccurate"—false Briton.

Professor Swinton gives two instances of errors in detail. First, the rhinoceros-type horn which Owen had located on the animal's nose is, in fact, a kind of spiky thumb. Further, Hawkins has placed *Iguanodon* on all fours, whereas he habitually stood on his hind legs which were considerably larger than his stubby forelegs.

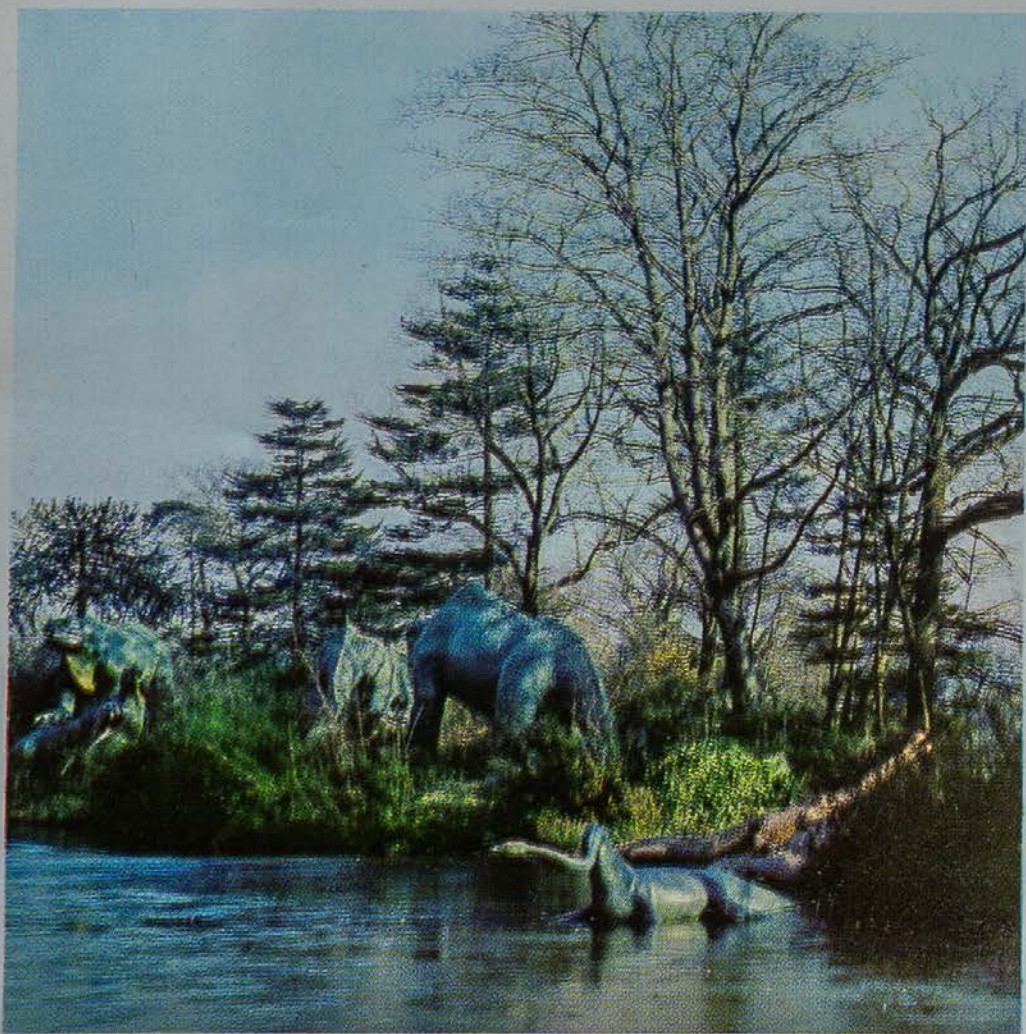
Not only the dinosaurs contain errors of detail. Among the reptiles the giant swimming lizard *Mosasaurus* and the shark-like *Ichthyosaurus* are similarly some way from the perfection intended by their architects. The reptile *Dicynodont* (Double dog-tooth)—a pre-historic cross between a lizard and a dog—carries a shell on its back in Hawkins's impression. The original had no shell.

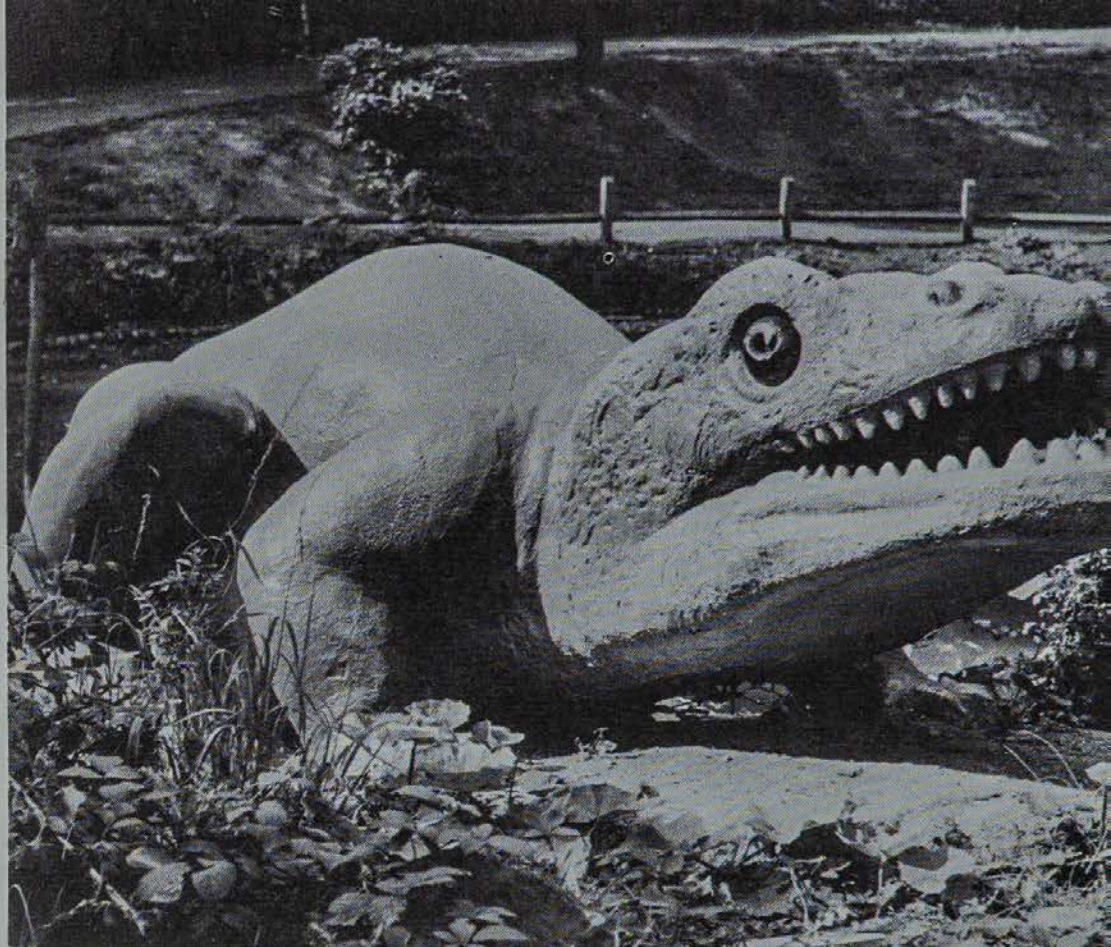
There are other instances in which the fancy of Hawkins differs from the fact of science. Yet these can scarcely qualify one's admiration for

the technical and artistic feat which Owen as adviser and Hawkins as builder, achieved. They were, after all, pioneers in previously unmapped territory and it is hardly surprising that they should stray at times from the paths of strict accuracy. In fact they conformed precisely to every detail of palaeontological knowledge that was available in their day.

In structure the models are simple—shells of brick, reinforced with iron and faced with stucco. Yet they stood for a century before major repairs were considered necessary. They are probably the earliest attempt to make any life-size plastic portrayal of the monsters of the antediluvian world and in size, variety and number must surely be unique.

In the centre pages will be found a map of the Crystal Palace estate, with a detailed plan of the site where the models are to be found. The individual monsters may be identified by referring to the numbers on the map and the notes which follow it.





▼ *Pterodactyls*

Labyrinthodont ▲





CRYSTAL PALACE The great glass palace on Sydenham Hill was completely destroyed by fire in 1936. Between 1939 and 1945 the estate was used for a variety of war purposes, and afterwards lay largely derelict.

By Act of Parliament the London County Council took over the 200-acre site and the responsibility of using it for education and recreation and the furtherance of art, commerce and industry.

Many improvements have been carried out in the 70-acre park. These include an extensive rock and water feature, a new restaurant providing a full range of light refreshments and an artificial ski slope erected in 1965. Leading symphony orchestras have played in the open air concert bowl which was opened in 1961.

Motor racing was restarted in 1953. Three motor car meetings—including an international—and two motor cycle meetings are held here every year as well as veteran events and frequent cycle meetings.

Among the attractions for children in the park are a children's zoo, a play park and a one o'clock club.

A number of plans have been drawn up for the redevelopment of the site. The future of the top terraces is still under discussion but one major development—the National Recreation Centre—was completed in 1964 and is now administered by the Central Council for Physical Recreation.

Copies of other booklets in this series may be obtained by sending a stamped addressed envelope to Parks Department (A5/Q), Cavell House, 2a Charing Cross Road, WC2.

Aspects of the Thames (A short guide to riverside parks)

With Children in Mind (Facilities for children: play parks, zoos, etc.)

Holland Park

Hainault Forest

Points of View (Woods and parks in south-east London)

The High Heath (Parks and commons in the Hampstead area)

The Glory of the Garden (Flower gardens in London parks)

F. HALLOWES, Chief Officer of the Parks Department

Photographs by Ronald A. Chapman, AIBP, ARPS, except *Megalosaurus* (J. Dixon Scott).

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